

Date: Thu, 10 Nov 94 04:30:20 PST
From: Ham-Digital Mailing List and Newsgroup <ham-digital@ucsd.edu>
Errors-To: Ham-Digital-Errors@UCSD.Edu
Reply-To: Ham-Digital@UCSD.Edu
Precedence: List
Subject: Ham-Digital Digest V94 #375
To: Ham-Digital

Ham-Digital Digest Thu, 10 Nov 94 Volume 94 : Issue 375

Today's Topics:

 2M 9600-ready radios; which would you buy?
 9600 bps on HTX-202?
 Good terminal program for packet???
 OH DIGI-LISTS
 Pulsed BPSK hoax?(???)
 Windows software for Kantronics Kam+
your LISTSERV request "help with radio modems"

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Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Digital Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-digital".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Wed, 9 Nov 1994 19:05:10 GMT
From: nickb@netcom.com (Nicholas L. Barbieri)
Subject: 2M 9600-ready radios; which would you buy?

I'd like to hear opinions from 9600 bps users on 2m. What 9600-ready
radio would you buy if you had the choice today?

--

Nick Barbieri Amateur Radio: KB6QI
(nickb@netcom.com)
(nlb1@goldengate.rtc.sc.ti.com)
(408)247-4268
Santa Clara, CA, USA

Date: 9 Nov 1994 19:30:24 -0500
From: jkalik@aol.com (JKalik)
Subject: 9600 bps on HTX-202?

Is this possible? Can I just connect the inouts and outputs to the FM modulator?

Date: Wed, 9 Nov 1994 20:25:15 LOCAL
From: nielsen@primenet.com (Bob Nielsen)
Subject: Good terminal program for packet???

In article <39os7c\$h66@dawn.mmm.com> Joe Showalter <jlshowalter@mmm.com> writes:

>I just want a good terminal program for my kpc-3.
>Right now I'm using procomm plus on a 286 but I don't have buffers or any
>other frills.
>Let me know of a good program and where to ftp it and I'll be happy :)
Ka-gold is highly popular, but is not shareware and therefore not available by
ftp. Interflex in Laguna Beach, CA puts it out.

You might try paKet. It is in the TAPR software directory at
ftp.hereford.ampr.org.

Bob

Bob Nielsen, W6SWE
Tucson, AZ
nielsen@primenet.com

Date: Mon, 7 Nov 1994 23:14:00 GMT
From: timo.d%hnrich@tdd.in-berlin.de (Timo D%hnrich)
Subject: OH DIGI-LISTS

I need frequency-lists of DIGIS in OH (Finland)with locations
of these digipeaters... If you have those lists or maps
please e-mail me.

Thanks in advance.

73 de DD6TN

Internet: dd6tn@tdd.in-berlin.de
AX.25 : dd6tn@db0brb

> QMPro 1.53 > Dogs come when you call. Cats have answering machines.

Date: 10 Nov 1994 05:42:37 GMT

From: karn@servo.qualcomm.com (Phil Karn)

Subject: Pulsed BPSK hoax?(???)

In article <CyzAwp.GA4@srigenprp.sr.hp.com>, alanb@hpnmarb.sr.hp.com (Alan Bloom) writes:

|> System Bartender (matt@plab.dml1.cornell.edu) wrote:

|> : Just ran across an interesting pair of articles... "A New Pulsed
|> : Bi-Phase Digital Communications System" by K6HH (73 Amateur Radio,
|> : June-July 1988). Does anybody know anything about this proposal?
|>

Sounds familiar; I think I read it when it came out.

|> : A quick synopsis: BPSK is performed on an RF signal, but with TINY
|> : (0.02 radian = 1.2 degrees), nearly instantaneous phase shifts...
|>

|> : Ok, this seems physically feasible... but his performance claims for
|> : the circuit, namely 19.2kbit/s in < 3kHz bandwidth, seem fishy at
|> : best.

Yeah. Even if it worked, the power efficiency would be *extremely* poor. Almost all of his transmitted energy goes into the carrier, which carries no information. BPSK is normally an antipodal modulation technique, which means that the two possible symbol vectors (0 and 180 degrees) are maximally distant, and for random data there is no discrete carrier component. This give you the best possible protection against additive noise: a 3dB improvement against an orthogonal modulation method such as coherently demodulated FSK with sufficient mark/space separation. Because the two symbol vectors in this "narrowband BPSK" scheme are so close together, there is very little protection against noise.

This guy could have benefited from reading a basic communications theory textbook. But as absurd as it is, his scheme is still useful in illustrating a counter-intuitive yet fundamental principle that still isn't widely appreciated. That is, minimizing bandwidth is exactly the *wrong* thing to do to when you're trying to maximize spectrum efficiency. That's because the more "bandwidth efficient" you make your signal, the more susceptible to noise and interference it MUST become. Much more power is then needed to compensate for the noise and interference, which means even worse interference to everybody else on the band.

Minimizing *power* is what really counts, because power, not bandwidth, is what causes interference. We should get rid of all modulation bandwidth limits in amateur radio (as long as you stay within the band) and replace them with a requirement for automatic transmitter power control.

John P. Costas, K2EN and the inventor of the Costas Loop, wrote a classic paper in the late 1950s called "Poisson, Shannon and the Radio Amateur" in which he laid out the theoretical foundation for this approach. He was only 3 decades before his time. Only now has the technology finally become capable of implementing his vision.

His thesis was that the whole concept of frequency coordination is doomed to failure in the real world, and he held up amateur radio as an example. The only real solution is to switch to interference-resistant modulation techniques, which according to information theory implies "broadband". Spread spectrum is the purest example, but the same concepts apply to other systems that are not technically spread spectrum.

It's well worth reading.

Phil

Date: 9 Nov 1994 23:15:38 -0500
From: chuckorl@aol.com (ChuckORL)
Subject: Windows software for Kantronics Kam+

In article <Cx9Cs9.B3o@cup.hp.com>, genem@cup.hp.com (Gene Marshall) writes:

Check out a shareware / demo program 'PacketPeT Lite For Windows'. PacketPeT supports the KAM and KPC3, as well as many other popular data controllers. Though on the market for a year, it is a product that continues to evolve. I am not sure about Internet sites proper, but the shareware version can be downloaded from CIS HAMNET, AOL the Ham club, and from Genie Radio-Electroncis sigs.

PacketPeT has many unique features, and is worth trying for free. If you have tried it in the past, check out the latest 2.03b release. We are constantly improving it, and there are some major new features planned for 95.

73 Chuck

Chuck Harrington Software, Inc.
Orlando, FL.

Date: 10 Nov 94 05:32:10 GMT
From: Listserv@ucsd.edu (Mailing List Processor)
Subject: your LISTSERV request "help with radio modems"

The mailing list "with" could not be found.
You may use the INDEX command to get a listing
of available mailing lists.

Date: 9 Nov 1994 15:41:25 +1100
From: dave@eram.esi.com.au (Dave Horsfall)

References<38uere\$ob2\$1@mhade.production.compuserve.com>
<CypEFq.5q3@inter.NL.net>, <39lsgq\$r34@hpbab.wv>
Subject: Re: using passwords over packet

In article <39lsgq\$r34@hpbab.wv>,
Hank_Oredson@mentorg.com writes:

| |> For RLI 5.x, I added a trick to provide 3 challenges:
|
| And we all thank you for providing this code.

And it's amazing how many people don't change their passwords often
enough, just like in the real world :-(

--
Dave Horsfall (VK2KFU) | dave@esi.com.au | VK2KFU @ VK2AAB.NSW.AUS.OC | PGP 2.6
Opinions expressed are mine. | E7 FE 97 88 E5 02 3C AE 9C 8C 54 5B 9A D4 A0 CD

End of Ham-Digital Digest V94 #375
